

REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is requested. Claims 1-3 and 6-30 are in this application. Claims 4 and 5 have been cancelled. Claims 1-3, 6-7, 12, 17-19, and 21-28 have been amended. In addition to the amendments discussed below, the claims have been amended to alternately recite the present invention. Further, claims 29-30 have been added to alternately claim the present invention.

The Examiner rejected claims 1, 6-8, and 17-20 under 35 U.S.C. §103(a) as being unpatentable over applicant's admitted prior art FIG. 1 in view of Donovan et al. (U.S. Patent No. 3,792,470) and further in view of Bell (U.S. Patent No. 5,930,340). In addition, the Examiner appeared to reject claims 21-28 under 35 U.S.C. §103(a) as being unpatentable over applicant's admitted prior art FIG. 1 in view of Donovan and Bell. For the reasons set forth below, applicant respectfully traverses these rejections.

Claim 1 recites:

"a status encoder comprising:
 "a first pair of wires; and
 "an encoding circuit connected to the first pair of wires, the encoding circuit to receive a battery status message, and simultaneously output a plurality of tones to the first pair of wires that represent a battery status as indicated in the battery status message, each tone representing a different battery status condition of a same battery."

Claim 21 recites "each tone representing a different battery status condition of a single battery," while new claim 29 recites "each tone representing a different battery status condition of a same battery."

In rejecting the claims, the Examiner pointed to control cable 130 shown in applicant's prior art FIG. 1 as constituting the first pair of wires required by the claims, and controller 126 shown in applicant's prior art FIG. 1 as constituting the encoding circuit required by the claims. In addition, the Examiner noted, citing page 5, lines 15-30 of applicant's specification, that controller 126 outputs battery status information to control cable 130.

The Examiner further noted that applicant's admitted prior art does not disclose that controller 126 simultaneously outputs a plurality of tones where each tone represents a different battery status condition. The Examiner, however, pointed to the text running from column 1, line 55 to column 2, line 10 of the Donovan patent as teaching this limitation (sending multiplexed alarm status signals over a telephone line).

The Donovan patent, however, fails to teach or suggest that each tone represents a different battery status condition of a same or a single battery as required by the claims. As shown in FIG. 1 of Donovan, the only device that simultaneously outputs a plurality of tones is summing amplifier 38. None of the alarm detect circuits 31-34 shown in FIG. 1 of Donovan simultaneously output a plurality of tones. Instead, each alarm detect circuit 31-34 outputs a sequence of tones. (See column 5, lines 11-15 of Donovan.) Thus, applicant assumes that the Examiner has read summing amplifier 38 to be the encoding circuit required by the claims.

As further shown in FIG. 1 of the Donovan patent, the inputs to summing amplifier 38 are the outputs from the alarm detect circuits 31-34. The outputs of the alarm detect circuits 31-34, in turn, report the alarm status conditions of a corresponding number of alarm sensors 11-14 that are located in different areas. (See column 4, lines 45-47 and 56-61 of the Donovan patent.) Thus, applicant

assumes that the Examiner has read the different alarm status conditions of the different alarm sensors 11-14 in the Donovan patent to be the different battery status conditions required by the claims.

However, if the different alarm status conditions in the Donovan patent are read to be the different battery status conditions, then the Donovan patent fails to teach or suggest that each of the simultaneous tones output by summing amplifier 38 represents the alarm status conditions of the same alarm sensor. Similarly, the Donovan patent fails to teach or suggest that each of the simultaneous tones output by summing amplifier 38 represents the alarm status conditions of a single alarm sensor.

Rather, the Donovan patent teaches that each of the simultaneous tones output by summing amplifier 38 represent the alarm status condition of a different alarm sensor. In other words, the simultaneous tones in Donovan do not represent the same or a single alarm sensor, but instead represent a number of different alarm sensors.

Thus, since the Donovan reference fails to teach or suggest simultaneously outputting a plurality of tones where each tone represents an alarm status condition of a same or single alarm sensor, the Donovan reference also fails to teach or suggest simultaneously outputting a plurality of tones where each tone represents a different battery status condition of a same or single battery.

Therefore, since the Donovan reference fails to teach or suggest an encoding circuit that simultaneously outputs a plurality of tones where each tone represents a different battery status condition of a same or single battery, claims 1, 21, and 29 are patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent.

In addition, since claims 6-8 depend from claim 1, claims 6-8 are patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent for the same reasons that claim 1 is patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent. Further, since claims 22-24 depend from claim 21, claims 22-24 are patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent for the same reasons that claim 21 is patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent. Also, since claim 30 depends from claim 29, claim 30 is patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent for the same reasons that claim 29 is patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent.

Claim 17 recites:

"a status decoder circuit having:
 "a first pair of wires; and
 "a decoding circuit connected to the first pair of wires, the
decoding circuit to simultaneously receive a plurality of tones from the first pair
of wires, and output a battery status message that represents a battery status
as indicated by the plurality of tones, each tone representing a different battery
status condition of a same battery."

Claim 25 recites "each tone representing a different battery status condition of a single battery."

In addition to the Donovan reference failing to teach or suggest an encoding circuit that simultaneously outputs a plurality of tones where each tone represents a different battery status condition of a same or single battery, the Donovan reference also fails to teach or suggest a decoding circuit that simultaneously receives a plurality

of tones where each tone represents a different battery status condition of a same or a single battery.

As a result, amended claims 17 and 25 are patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent. In addition, since claim 18 depends from claim 17, claim 18 is patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent for the same reason that claim 17 is patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent. Further, since claim 26 depends from claim 25, claim 26 is patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent for the same reason that claim 25 is patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent.

Claim 19 recites:

“placing a DC voltage on a pair of wires; and
“simultaneously superimposing a plurality of tones on the DC voltage on the pair of wires, each tone representing a different battery status condition of a same battery.”

Claim 27 recites “each tone representing a different battery status condition of a single battery.”

As noted above, the Donovan reference fails to teach or suggest an encoding circuit that simultaneously outputs a plurality of tones where each tone represents a different battery status condition of a same or a single battery. As a result, claims 19-20 and 27-28 are patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent.

The Examiner rejected claims 2-5 and 9 under 35 U.S.C. §103(a) as being unpatentable over applicant's admitted prior art FIG. 1 in view of Donovan et al. and Bell and further in view of DeCramer et al. (U.S. Patent Publication No. 2002/0041676). The Examiner also appeared to reject claim 11 under 35 U.S.C. §103(a) as being unpatentable over applicant's admitted prior art FIG. 1 in view of Donovan et al. and Bell and further in view of the DeCramer publication. Claims 2-3, 9, and 11 depend from claim 1. (Claims 4-5 have been cancelled.) As a result, claims 2-3, 9, and 11 are patentable over applicant's admitted prior art in view of the Donovan patent and the Bell patent and further in view of the DeCramer publication for the same reasons that claim 1 is patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent.

The Examiner rejected claims 12-16 under 35 U.S.C. §103(a) as being unpatentable over applicant's admitted prior art FIG. 1 in view of Donovan et al. and Bell and further in view of Dhara et al. (U.S. Patent No. 6,879,582). Claims 12-16 depend from claim 1. As a result, claims 12-16 are patentable over applicant's admitted prior art in view of the Donovan patent and the Bell patent and further in view of the Dhara patent for the same reasons that claim 1 is patentable over applicant's admitted prior art in view of the Donovan patent and further in view of the Bell patent.

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Thus, for the foregoing reasons, it is submitted that all of the claims are in a condition for allowance. Therefore, the Examiner's early re-examination and reconsideration are respectively requested.

Respectfully submitted,

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